



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to  
Implement the Commission's  
Procurement Incentive Framework and  
to Examine the Integration of  
Greenhouse Gas Emissions Standards  
into Procurement Policies.

Rulemaking 06-04-009  
(Filed April 13, 2006)

**COMMENTS OF  
THE DIVISION OF RATEPAYER ADVOCATES  
THE PHASE 1 ISSUES WORKSHOP REPORT**

**I. INTRODUCTION**

Pursuant to the July 7, 2006 Administrative Law Judge Ruling on Phase 1 Post-Workshop Comments, Schedule and other Procedural matters,<sup>1</sup> the Division of Ratepayer Advocates (DRA) submits the following comments on the "Draft Workshop Report: Interim Emissions Performance Standard Program Framework" (Draft Workshop Report). DRA agrees that the interim emissions performance standard (EPS) is an important measure to prevent gaming of future greenhouse gas (GHG) policy measures. Cap-and-trade policies that grandfather existing systems typically provide a short-term anti-social incentive before the cap is made fixed. For example, a company could build a very polluting plant in anticipation of a coming pollution cap, and then immediately shut the plant down to trade pollution credits for financial reward as the cap becomes law.

The EPS as formulated by Commission staff in the Division of Strategic Planning (DSP) prevents this corruption of potential GHG public policy. By removing the threat that dirty electricity generation plants may be built that will become obsolete before the

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<sup>1</sup> Administrative Law Judge Econome issued an August 28, 2006 ruling that subsequently revised the dates for opening and reply comments, in response to a request by parties that the date be revised to allow interested parties to complete the legislative session and begin assimilating the results of any adopted  
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end of their useful lives, the DSP proposal also serves to minimize the cost and unnecessary risks borne by ratepayers.

DRA disagrees with the conclusions reached by the Draft Workshop Report on certain issues,<sup>2</sup> but believes overall that the DSP proposal strikes a reasonable balance between setting a standard that will protect ratepayers from the risk of investments in high GHG emitting resources<sup>3</sup> with competing concerns of system reliability and administrative simplicity. Thus, DRA concurs with the spirit of the Draft Workshop Report, while advocating for a slightly different approach on certain issues.

DRA's comments also consider some potential impacts of Senate Bill (SB) 1368, recently passed by the legislature but not yet signed by Governor Schwarzenegger. If SB 1368 is enacted, it would remove any doubt that the EPS would apply to electric service providers and Community Choice Aggregators, and would impose other limits on the EPS that the Commission adopts.

## II. DISCUSSION

### A. **The Commission should adopt the proposed EPS limit of 1000 pounds of CO<sub>2</sub> per MWh of delivered electricity, or if any change is made, should lower the limit.**

DRA supports the proposed EPS limit of 1000 lbs of CO<sub>2</sub> produced per MWh of electricity delivered. This is considerably higher than that of the best available new CCGT plants. For example, an emission rate of 745 lbs of CO<sub>2</sub> /MWh is implied by the heat rate of 6,375 BTU/kWh used for the computation of the Market Price Referent in the Renewable Portfolio Standard proceeding. However, the proposed limit would still promote the use of more efficient technology, as compared with the higher limits

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legislation as part of the comments.

<sup>2</sup> Consistent with the guidance in the Draft Workshop Report, DRA will not repeat its arguments.

<sup>3</sup> The range of specific recommendations offered by DSP in Section C (p. 34-37), of DSP's "Draft Workshop Report: Interim Emissions Performance Standard Program Framework," are generally supported by DRA.

proposed by some other parties. A lower limit will result in combined long-term savings in fuel use, fuel cost, and the avoidance of future carbon dioxide costs.

Senate Bill 1368 is aimed at the same goal as the EPS proposed in the Draft Workshop Report, to set the EPS at the level of a combined cycle gas turbine. If SB 1368 becomes law, Section 8431(d)(1) would require the Commission to adopt an EPS "no higher than the rate of emissions of greenhouse gases for combined-cycle natural gas baseload generation." As the chart below shows, the range of acceptable EPS would be 800 to 990 lbs per MWh, or very close to the currently proposed 1000 lbs per MWh.

Representative Heat Rates and Emissions for various technologies

Technology	Capacity & Energy Benefits	Vintage of Technology	Full Load Heat Rate range		Emissions range***	
			btu/kwhr	btu/kwhr	lb CO2/ kwhr	lb CO2/ kwhr
GT (Aero-derivative Type)	Peaking	1990s-New	9200	10700	1.08	1.25
GT- (Large Frame Type)	Peaking	1990s-New	10400	11600	1.22	1.36
CT Older	Peaking	1970s-1980s	12000	17500	1.40	2.05
Reciprocating Engines	Peaking	New	8600	10000	1.01	1.17
Comb-Cycles	Base-Mid Range	1980s-New	6800	8500	0.80	0.99
Comb-Cycle w/ Duct Firing	Base-Mid Range-Peaking	2000-2005	6900	8700	0.81	1.02
Steam	Mid Range	1950s-1970s	9200	14000	1.08	1.64
Existing Coal*	Base		9500	12500	1.95	2.56
Pulverized Coal (sub-critical steam cycle)**	Base		9300		1.91	
Integrated Coal Gasification**	Base		8630		1.77	

\* Heat rate from: <http://www.econsci.com/ear9801.html>

\*\* Heat rate from:

<http://www.cinergy.com/coal2020/presentations/Courtright.pdf>

\*\*\* Used 117 lb/mmBtu for natural gas, and 205 lb/mmBtu for coal

DRA also notes that based on engineering calculations, power plants using dry cooling should be allowed a higher EPS in recognition of their countervailing benefits of lower water use. For example, a study commissioned by the California Energy Commission found that dry cooling would reduce the efficiency (and thus increase the

production of CO2) by about 1.5% in the Central Valley.<sup>4</sup> The EPS adopted by the Commission should note the possibility of including this modification.

**B. The Commission should adopt a 50% capacity factor.**

DRA recommends a slightly lower but reasonable average annual capacity factor (50% vs. DSP's recommendation of 60%) as the cut off for baseload. The staff report's argument that the marginal difference in energy and pollution is small between the two is not relevant.<sup>5</sup> In fact, if the difference is negligible, then it makes no difference which cut-off is adopted. The important factor is the relative reduction in CO2 emissions compared to the relative energy produced. By this measure, each kWh produced by plants operating at a 50% capacity factor produces more CO2 emissions than a kWh from the power plants operated above a 60% capacity factor. The utilities did not make a case as why the 60% (as opposed to 50%) cut-off was necessary.

In the event the Governor signs SB 1368, then it appears that the issue will be resolved by Sections 8340 and 8341 of the Public Utilities Code, which would prohibit load serving entities from entering into long term financial commitments for baseload generation, defined as "generation from a power plant that is designed and intended to provide electricity at an annualized plant capacity factor of at least 60 percent."

**C. The Commission should closely monitor unspecified resources using the California Energy Commission (CEC) Net System Power Approach.**

Of the four options proposed for valuing for "unspecified" resources, DRA generally supports the staff recommendation to use the CEC net system power calculation. However, the workshop did not delve into the implications of nuclear and large hydroelectric energy in the unspecified energy, both from within and imported into the State. Including this type of power within the Net System Power Average results in

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<sup>4</sup> Cost and Value of Water Use at Combined Cycle Power Plants, J.S. Maulbetsch and M.N. DiFilippo, CEC report CEC-500-2006-034, April 2006, p.21.

<sup>5</sup> Staff report, p. 22.

an average that appears lower in GHG emissions than would result if the number included only fossil fuel generation.

A more fundamental issue acknowledged by the Draft Workshop report<sup>6</sup> is the possibility “LSEs will be inclined to enter into unspecified contracts with high emitting resources in order to circumvent the EPS by having a possible lower emissions rate assigned to that resource.” While it may be the case that such contracts currently represent “a small fraction of the incremental power supply,” assigning a value to unspecified resources that complies with the EPS could operate as a strong incentive to execute contracts for unspecified resources. The Commission should therefore adopt DSP’s recommendation to monitor contracting patterns and behavior to ensure they do not change in an effort to hide the use of dirty electricity

**D. The Commission should limit any research and development exception to prevent gaming.**

The Commission should closely monitor the construction of power plants that would rely on yet to be developed technology, including methods of carbon dioxide sequestration. If any such power plant is constructed, stringent standards and continued monitoring should be used for any such plant, to ensure that the carbon dioxide control strategy is actually implemented, and substantial penalties should be applied in the event of failure to do so.

**III. CONCLUSION**

DRA respectfully requests that the Commission adopt the EPS as formulated by the DSP proposal, with the following exceptions: 1) the Commission should adopt a capacity factor of 50% rather than 60% for covered resources, although if SB 1368 is enacted, a 60% capacity factor would be required, and 2) the Commission monitor the research and development exception to prevent gaming.

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<sup>6</sup> Draft Workshop Report, p. 31.

Respectfully submitted,

/s/     DIANA L LEE

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September 8, 2006

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served a copy of “COMMENTS OF THE DIVISION OF RATEPAYER ADVOCATES THE PHASE 1 ISSUES WORKSHOP REPORT” in **R.06-04-009** by using the following service:

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Executed on September 8<sup>th</sup>, 2006 at San Francisco, California.

MARTHA PEREZ

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Martha Perez

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